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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

MOORE, JAMES K

ART UNIT	PAPER NUMBER
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2682

DATE MAILED: 03/18/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/328,306

Applicant(s)

BERKOWITZ ET AL.

Examiner

James K Moore

Art Unit

2682

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on ____.
- 2a) ☐ This action is FINAL. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) ____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 9-11 and 40-43 is/are allowed.
- 6) ☒ Claim(s) 1-8, 12-18, 21, 22, 28, 33, 36-39 and 44-47 is/are rejected.
- 7) ☒ Claim(s) 19, 20, 23-27, 29-32, 34 and 35 is/are objected to.
- 8) ☐ Claim(s) ____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☒ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 08 June 1999 is/are: a) ☐ accepted or b) ☒ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on ____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. ____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☒ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 3, 7.
- 4) ☐ Interview Summary (PTO-413) Paper No(s) ____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Specification

1. The specification is objected to as failing to provide proper antecedent basis for the claimed subject matter. See 37 CFR 1.75(d)(1) and MPEP § 608.01(o). Correction of the following is required: the specification must be amended to provide clear support for the claimed feature "circuitry coupled to the set of interfaces that converts a signal from the subscriber to packets before passing the signal to the PSTN". See claim 15.

Claim Objections

2. Claim 40 is objected to because of the following informalities: in line 9, "direct" should be changed to "directed". Appropriate correction is required.

Claim Rejections - 35 USC § 112

3. The following is a quotation of the first paragraph of 35 U.S.C. 112:

The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

4. Claims 8, 14, and 46 are rejected under 35 U.S.C. 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to enable one skilled in the art to which it pertains, or with which it is most nearly connected, to make and/or use the invention.

Regarding claims 8 and 46, the specification does not describe the claimed feature, "wherein, for calls with the subscriber located in a region other than the geographic region to which the subscriber is assigned, billing information is passed to the existing network regarding location of the subscriber only through the interface that serves the region to which the subscriber is assigned", adequately enough to enable one skilled in the art to make or use the invention.

Regarding claim 14, the specification does not describe the claimed feature, "wherein communication between the circuitry coupled to the set of interfaces and the subscriber takes place entirely over a land line system". The specification discloses that the subscriber is a mobile subscriber that communicates wirelessly with radio transceivers.

5. The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

6. Claims 1-8 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Claim 1 recites the limitation "the various geographic regions" in line 5. There is insufficient antecedent basis for this limitation in the claim.

Claims 2-8 depend on claim 1.

Claim Rejections - 35 USC § 102

7. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(a) the invention was known or used by others in this country, or patented or described in a printed publication in this or a foreign country, before the invention thereof by the applicant for a patent.

8. Claims 1-3, 6, 7, 12, 16-18, 21, 22, 36-38, and 44 are rejected under 35 U.S.C. 102(a) as being anticipated by Houde et al. (U.S. Patent No. 5,978,678).

Regarding claim 1, Houde discloses a method of modifying an existing telephone network (the PSTN). The method comprises coupling interface devices (switching nodes 14) to the telephone network. The interface devices are inherently coupled to circuitry coupled to radio transceivers that service mobile subscribers (16) that may be located in various geographic regions, and the mobile subscribers are each assigned to a geographic region. The interface devices are also coupled to circuitry (international gateway 50) that, when a subscriber (16(1)) is located in a region (the second country) other than a geographic region (the first country) to which the subscriber is assigned, routes a call with the mobile subscriber through a path including a radio transceiver (inherently coupled to a switching node 34) that serves the region (second country) in which the mobile subscriber is currently located and an interface device that serves the region (first country) to which the subscriber is assigned. See Figures 1 and 3; col. 3, lines 10-39; col. 4, lines 3-27; and col. 5, line 1 through col. 6, line 4.

Regarding claim 2, Houde discloses all of the limitations of claim 1, and also discloses that the existing telephone network comprises a PSTN. See col. 5, lines 5-10.

Regarding claim 3, Houde discloses all of the limitations of claim 1, and the path between the radio transceiver (inherently coupled to a switching node 34) and the interface device (switching node 14) in the region (first country) to which the subscriber is assigned does not include the existing telephone network (PSTN). See Figure 1.

Regarding claim 6, Houde discloses all of the limitations of claim 1, and also discloses that the path between the inherent radio transceiver and the interface device (14) that serves the region to which the subscriber is assigned includes an interface (switching node 34) that serves the region in which the subscriber is located. See Figure 1.

Regarding claim 7, Houde discloses all of the limitations of claim 1, and also discloses that the path between the inherent transceiver and the interface device (14) that serves the region to which the subscriber is assigned includes a device (international gateway 50) that is coupled to the interface devices (14, 34) via bearer channels (voice trunk connections 20, 40) and control channels (signaling links 18, 38). See col. 4, lines 3-12.

Regarding claim 12, Houde discloses a communications system. The system comprises a set of interfaces (switching nodes 14) coupled to a PSTN. The interfaces serve various geographic regions. The system also comprises circuitry (international gateway 50) coupled to set of interfaces that, for communication between the PSTN and a subscriber (international roamer 16(1)) located in a region (second country) other than

a region served by an interface to which the subscriber is assigned, causes the communication to take place via the interface to which the subscriber is assigned. See Figures 1 and 3; col. 3, lines 10-39; col. 4, lines 3-27; and col. 5, line 1 through col. 6, line 4.

Regarding claim 16, Houde discloses all of the limitations of claim 12, and also discloses that communication between the circuitry (international gateway 50) coupled to the set of interfaces (14, 34) and the subscriber (16) take place at least partially by radio transmission. See Figure 1.

Regarding claim 17, Houde discloses a communications system comprising a set of interface devices (switching nodes 14, 34) coupled to a PSTN. The interface devices serve various geographic regions. The system also inherently comprises radio transceivers coupled to the interface devices. The radio transceivers communicate with mobile subscribers which have home regions. The system also comprises circuitry (international gateway 50) coupled to the interface devices that, for a call involving the PSTN and a mobile subscriber (international roamer 16(1)) located outside the mobile subscriber's home region, routes the call through a path including an interface device (14) that serves the mobile subscriber's home region. See Figures 1 and 3; col. 3, lines 10-39; col. 4, lines 3-27; and col. 5, line 1 through col. 6, line 4.

Regarding claim 18, Houde discloses all of the limitations of claim 17, and also discloses that for a call to a mobile subscriber (international roamer 16(1)), the circuitry (international gateway 50) determines the region in which the mobile subscriber is located and routes the call through a path including the interface (switching node 14)

that serves the mobile subscriber's home region and the interface (switching node 34) that serves the region in which the mobile subscriber is located. See col. 5, line 1 through col. 6, line 4.

Regarding claim 21, Houde discloses all of the limitations of claim 17, and also discloses that for a call to a mobile subscriber (international roamer 16(1)), the circuitry (international gateway 50) routes the call through a path including the interface (switching node 14) that serves the mobile subscriber's home region and the interface (switching node 34) that serves the region in which the mobile subscriber is located. See col. 5, line 1 through col. 6, line 4.

Regarding claim 22, Houde discloses all of the limitations of claim 17, and also discloses that the mobile subscriber (international roamer 16(1)) has a transceiver with circuitry that transmits information regarding the mobile subscriber's home region to the circuitry (international gateway 50) coupled to the set of interfaces (14, 34). See col. 4, lines 28-47.

Regarding claim 36, Houde discloses a communications system comprising a set of interface devices (switching nodes 14, 34) coupled to a PSTN. The interface devices service various geographic regions. The system also comprises, inherently coupled to each interface device, a set of devices (base station systems) for communicating with and coupled to radio transceivers. The system also comprises circuitry (international gateway 50) coupled to the set of interface devices that, with respect to calls from the PSTN to mobile subscribers, inherently has the same type of interface (land-line interface) as the set of devices for communicating with the radio transceivers. If a call

from the PSTN through an interface device is directed to a subscriber (international roamer 16(1)) in an area not serviced by the set of devices for communicating with the radio transceivers coupled to the interface, the circuitry routes the call to an interface device (switching node 34) coupled to a set of devices for communicating that service in an area in which the subscriber is located. See Figures 1 and 3; col. 3, lines 10-39; col. 4, lines 3-27; and col. 5, line 1 through col. 6, line 4.

Regarding claim 37, Houde discloses all of the limitations of claim 36. Houde also discloses that the circuitry (international gateway 50) routes the call without interrogating a centralized database. See col. 5, line 1 through col. 6, line 4.

Regarding claim 38, Houde discloses all of the limitations of claim 36, and also discloses that the circuitry routes the call without interrogating a HLR or VLR. See col. 5, line 1 through col. 6, line 4.

Regarding claim 44, Houde discloses a method of modifying an existing telephone network (PSTN). The method comprises locating interface devices (switching nodes 14, 34) in various geographic regions of the telephone network and coupling the interface devices to the telephone network in the various geographic regions. The interface devices are inherently coupled to circuitry coupled to radio transceivers that service mobile subscribers that may be located in the various geographic regions and are assigned to geographic regions. The interface devices are coupled to circuitry (international gateway 50) that, when a subscriber (international roamer 16(1)) is located in a region other than a geographic region to which the subscriber is assigned, routes a call with the mobile subscriber through a path including

an inherent radio transceiver in the region in which the mobile subscriber is currently located and an interface device (switching node 14) in the region to which the subscriber is assigned. See Figures 1 and 3; col. 3, lines 10-39; col. 4, lines 3-27; and col. 5, line 1 through col. 6, line 4.

Claim Rejections - 35 USC § 103

9. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

10. Claims 4, 5, 13, 28, 33, 39, 45, and 47 are rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al. in view of well known prior art.

Regarding claim 4, Houde discloses all of the limitations of claim 1, but does not disclose that the path between the inherent radio transceiver and the interface device (14) that serves the region (first country) to which the subscriber is assigned includes the existing telephone network (PSTN). However, one of ordinary skill in the art at the time of the invention would have recognized that, depending upon the configurations of the communication networks of the first country and second country, the most efficient routing path between the interface (switching node 14) receiving the call and the international gateway 50, or the most efficient routing path between the international gateway 50 and the interface (switching node 34) serving the mobile station, may

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include a path through the PSTN. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the path between the inherent radio transceiver and the interface device (14) that serves the region (first country) to which the subscriber is assigned includes the existing telephone network (PSTN), in order to route the call along the most efficient path.

Regarding claims 5 and 45, Houde discloses all of the limitations of claims 1 and 44, but does not disclose that the path between the inherent radio transceiver and the interface device (14) that serves the region (first country) to which the subscriber is assigned includes an E1 link. However, it was well known in the art at the time of the invention that E1 is a European communication standard that provides high-speed data transfer. Therefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the path between the inherent radio transceiver and the interface device (14) that serves the region (first country) to which the subscriber is assigned includes an E1 link, in order to provide the network with the capability to transfer high amounts of data.

Regarding claim 13, Houde discloses all of the limitations of claim 12, but does not disclose that the circuitry (international gateway 50) is coupled to the interfaces via an E1 interface. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the circuitry is coupled to the interfaces via an E1 interface, for the same reason as set forth in regards to claim 5 above, i.e., to provide the communication system with the capability to transfer high amounts of data.

Regarding claim 28, Houde discloses all of the limitations of claim 17, but does not disclose that the path between the mobile subscriber and the interface device (14) that serves the subscriber's home region includes the PSTN. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the path between the mobile subscriber and the interface device (14) that serves the subscriber's home region includes the PSTN, for the same reason as set forth in regards to claim 4 above, i.e., in order to route the call along the most efficient path.

Regarding claims 33 and 47, Houde discloses a communications system comprising a set of interface devices (switching nodes 14, 34) coupled to a PSTN. The interface devices serve various geographic regions. The communications system also comprises radio transceivers inherently coupled to the interface devices. The radio transceivers communicate with mobile subscribers which have home regions. The system also comprises circuitry (international gateway 50) coupled to the set of interfaces that, for a call involving the PSTN and a mobile subscriber (international roamer (16(1)) located outside the mobile subscriber's home region, routes the call through a path including an interface device (14) that serves in the mobile subscriber's home region. Houde does not disclose that the path includes a portion of the PSTN. However, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the path between the mobile subscriber and the interface device (14) that serves the subscriber's home region includes the PSTN, for

the same reason as set forth in regards to claim 4 above, i.e., in order to route the call along the most efficient path.

Regarding claim 39, Houde discloses all of the limitations of claim 36, but does not disclose that the set of devices for communicating with the radio transceivers comprise radio port controllers. However, the examiner takes Official Notice that it is well known in the art that radio port controllers perform the function of assigning channels to radio transceivers. It would have been obvious to one of ordinary skill in the art at the time of the invention to modify Houde, such that the set of devices for communicating with the radio transceivers comprise radio port controllers, in order to provide a mechanism for assigning channels to the radio transceivers.

11. Claim 15 is rejected under 35 U.S.C. 103(a) as being unpatentable over Houde et al. in view of Focarile et al. (U.S. Patent No. 5,434,854).

Regarding claim 15, Houde discloses all of the limitations of claim 12, but does not disclose that the communication system includes circuitry coupled to the set of interfaces that converts a signal from the subscriber to packets before passing the signal to the PSTN. However, Focarile discloses a communication system that includes circuitry coupled to a set of interfaces (switches) that converts a signal from the subscriber to packets before passing the signal to the PSTN. See col. 4, line 35 through col. 5, line 20. In addition, one of ordinary skill in the art recognizes that an advantage of packet-switched communication is that it makes more efficient use of data lines than circuit-switched communication. Therefore, it would have been obvious to

one of ordinary skill in the art at the time of the invention to modify Houde with Focarile, such that the communication system includes circuitry coupled to the set of interfaces that converts a signal from the subscriber to packets before passing the signal to the PSTN, in order to make more efficient use of the system's data lines.

Allowable Subject Matter

12. Claims 9-11 and 40-43 are allowed.

13. Claims 19, 20, 23-27, 29-32, 34, and 35 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

14. The following is a statement of reasons for the indication of allowable subject matter:

The present invention is directed to a communications system. The system comprises a first network dispersed throughout a national area, and a second network coupled to the first network by interfaces in a plurality of geographic regions in the national area. The second network includes radio transceivers for communicating with subscribers located in the geographic regions, and each subscriber has a home region.

Claim 9 identifies the uniquely distinct feature "circuitry that routes all communication between a subscriber and the first network through an interface between the first network and the second network in the subscriber's home region."

The closest prior art, Houde et al., discloses a communications system. The system comprises a first network dispersed throughout a national area, and a second network coupled to the first network by interfaces in a plurality of geographic regions in the national area. The second network includes radio transceivers for communicating with subscribers located in the geographic regions, and each subscriber has a home region. However, Houde fails to anticipate or render the above underlined limitations obvious.

Claims 10 and 11 depend on claim 9.

The present invention is also directed to another embodiment of the communications system. The system comprises a set of interface devices coupled to a PSTN, and radio transceivers coupled to the interface devices. The radio transceivers communicate with mobile subscribers, and the mobile subscribers each have a home region. The system also comprises circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region.

Claim 19 identifies the uniquely distinct feature "the circuitry coupled to the set of interfaces, upon detecting that the mobile subscriber is located outside the mobile subscriber's home region, routes the call depending on instruction in a subscriber service profile."

Claim 23 identifies the uniquely distinct feature "wherein the circuitry coupled to the set of interfaces comprises computer systems located in different areas, a computer system located in each area routing calls between the interfaces in the respective area."

Claim 24 identifies the uniquely distinct feature "wherein the circuitry coupled to the set of interfaces comprises multiple computer systems, each computer system coupled to sets of bearer and control channels and each computer system coupled to the other computer systems by a common control bus."

Claim 29 identifies the uniquely distinct feature "wherein the interface devices include roaming gateways coupled to the PSTN and coupled via a control bus to the circuitry that routes the call."

Claim 34 identifies the uniquely distinct feature "wherein the portion of the path through the PSTN between the subscriber and the interface device and the mobile subscriber's home region is obtained based on a routing number assigned to the interface that serves the region in which the subscriber is currently located."

Claim 35 identifies the uniquely distinct feature "wherein a control bus is included in the circuitry that routes the call through a path including the interface device that serves the mobile subscriber's home region, and wherein the control bus is coupled to (a) an interface device to the PSTN that serves the subscriber's home region and (b) an interface device to the PSTN that serves a region in which the subscriber is located."

The closest prior art, Houde et al., discloses a communications system. The system comprises a set of interface devices coupled to a PSTN, and radio transceivers coupled to the interface devices. The radio transceivers communicate with mobile

subscribers, and the mobile subscribers each have a home region. The system also comprises circuitry coupled to the set of interface devices that, for a call involving the PSTN and a mobile subscriber located outside the mobile subscriber's home region, routes the call through a path including an interface device that serves the mobile subscriber's home region. However, Houde fails to anticipate or render the above underlined limitations obvious.

Claim 20 depends on claim 19. Claim 27 depends on claim 23. Claims 25 and 26 depend on claim 24. Claims 30-32 depend on claim 29.

The present invention is also directed to another embodiment of the communications system. The system comprises a set of interface devices coupled to a PSTN, and circuitry coupled to the set of interface devices that, with respect to calls from subscribers to the PSTN, has the same type of interface as a port of the PSTN.

Claim 40 identifies the uniquely distinct feature "wherein, if a call from a subscriber located outside the subscriber's home area is directed to the PSTN, the circuitry coupled to the set of interface devices routes the call to an interface device that serves the subscriber's home area."

The closest prior art, Houde et al., discloses a communications system. The system comprises a set of interface devices coupled to a PSTN, and circuitry coupled to the set of interface devices that, with respect to calls from subscribers to the PSTN, has the same type of interface as a port of the PSTN. However, Houde fails to anticipate or render the above underlined limitations obvious.

Claims 41-43 depend on claim 40.

Conclusion

15. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Ken Moore, whose telephone number is (703) 308-6042. The examiner can normally be reached on Monday-Friday from 8:30 AM - 5:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Vivian Chin, can be reached at (703) 308-6739.

Any response to this action should be mailed to:

Commissioner of Patents and Trademarks

Washington, D.C. 20231

or faxed to:

(703) 872-9314 (for Technology Center 2600 only)


Hand-delivered responses should be brought to Crystal Park II, 2121 Crystal Drive, Arlington, VA, Sixth Floor (Receptionist).

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the Technology Center 2600 Customer Service Office whose telephone number is (703) 306-0377.

Ken Moore

2/26/03

JKM


VIVIAN CHIN
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2600
3/10/03